

CLAIMS

What is claimed is:

1 1. A method for locating an object device wirelessly communicating
2 with at least one node, the method comprising:

3 (a) discovering the nodes wirelessly communicating with the
4 object device;

5 (b) for each node wirelessly communicating with the object
6 device, discovering a location of a coverage area for the node; and,

7 (c) discovering an area of location for the object device from
8 the location of the coverage area for each node wirelessly communicating with
9 the object device.

1 2. The method of claim 1 wherein discovering the nodes includes:

2 (a) querying nodes to discover devices wirelessly
3 communicating with each node;

4 (b) generating an index of devices wirelessly communicating
5 with each node and the nodes to which each device is wirelessly
6 communicating;

7 (c) selecting the object device from the index; and,

8 (d) reading the index to discover the nodes wirelessly
9 communicating with the object device.

1 3. The method of claim 1 wherein discovering the nodes includes
2 querying nodes to discover whether the object device is wirelessly
3 communicating with the nodes.

1 4. The method of claim 1 wherein discovering the location of the
2 coverage area for each node wirelessly communicating with the object device

3 includes reading the location of the coverage area for each node wirelessly
4 communicating with the object device.

1 5. The method of claim 1 wherein discovering the location of the
2 coverage area for each node wirelessly communicating with the object device
3 includes:

4 (a) reading a node location for each node wirelessly
5 communicating with the object device; and,
6 (b) calculating the location of the coverage area from the node
7 location.

1 6. The method of claim 1 wherein discovering the area of location for
2 the object device includes discovering a region common to the coverage areas
3 for each node communicating wirelessly with the object device.

1 7. The method of claim 1 wherein discovering the area of location for
2 the object device includes discovering a region excluding the coverage areas for
3 each node not communicating wirelessly with the object device.

1 8. A system for locating an object device wirelessly communicating
2 with at least one node, the system comprising:
3 (a) a node searcher configured to discover the nodes wirelessly
4 communicating with the object device;
5 (b) a coverage area inspector configured to discover a location
6 of a coverage area for the node for each node wirelessly communicating with
7 the object device; and,
8 (c) an area of location finder configured to discover an area of
9 location for the object device from the location of the coverage area for each
10 node wirelessly communicating with the object device.

1 9. The system of claim 8 wherein the node searcher includes:
2 (a) an inquirer configured to query nodes to discover devices
3 wirelessly communicating with each node;
4 (b) an indexer configured to generate an index of devices
5 wirelessly communicating with each node and the nodes to which each device is
6 wirelessly communicating;
7 (c) a selector configured to select the object device from the
8 index; and,
9 (d) an index reader configured to read the index to discover the
10 nodes wirelessly communicating with the object device.

1 10. The system of claim 8 wherein the node searcher includes an
2 inquirer configured to query nodes to discover whether the object device is
3 wirelessly communicating with the nodes.

1 11. The system of claim 8 the coverage area inspector includes a node
2 reader configured to read the location of the coverage area for each node
3 wirelessly communicating with the object device.

1 12. The system of claim 8 wherein the coverage area inspector
2 includes:
3 (a) a node reader configured to read a node location for each
4 node wirelessly communicating with the object device; and,
5 (b) a calculator configured to calculate the location of the
6 coverage area from the node location.

1 13. The system of claim 8 wherein the area of location finder includes
2 a mapper configured to discover a region common to the coverage areas for
3 each node communicating wirelessly with the object device.

1 14. The system of claim 8 wherein the area of location finder includes
2 a mapper configured to discover a region excluding the coverage areas for each
3 node not communicating wirelessly with the object device.

1 15. A program storage device readable by a computer, tangibly
2 embodying a program, applet or instructions executable by the computer to
3 perform method steps for locating an object device wirelessly communicating
4 with at least one node, the method steps comprising:

5 (a) discovering the nodes wirelessly communicating with the
6 object device;

7 (b) for each node wirelessly communicating with the object
8 device, discovering a location of a coverage area for the node; and,

9 (c) discovering an area of location for the object device from
10 the location of the coverage area for each node wirelessly communicating with
11 the object device.

1 16. The program storage device of claim 15 wherein the method step
2 of discovering the nodes includes:

3 (a) querying nodes to discover devices wirelessly
4 communicating with each node;

5 (b) generating an index of devices wirelessly communicating
6 with each node and the nodes to which each device is wirelessly
7 communicating;

8 (c) selecting the object device from the index; and,

9 (d) reading the index to discover the nodes wirelessly
10 communicating with the object device.

1 17. The program storage device of claim 15 wherein the method step
2 of discovering the nodes includes querying nodes to discover whether the object
3 device is wirelessly communicating with the nodes.

1 18. The program storage device of claim 15 wherein the method step
2 of discovering the location of the coverage area for each node includes reading
3 the location of the coverage area for each node.

1 19. The program storage device of claim 15 wherein the method step
2 of discovering the area of location for the object device includes discovering a
3 region common to the coverage areas for each node communicating wirelessly
4 with the object device.

1 20. The program storage device of claim 15 wherein the method step
2 of discovering the area of location for the object device includes discovering a
3 region excluding the coverage areas for each node not communicating wirelessly
4 with the object device.